

2010-05-26 Wednesday Morning Notes

Wednesday, May 26, 2010

7:19 AM

Access and Maintenance Period:

- Started our access work at 7am. Most of the access work went as planned and on schedule.
 - Got our Dump and Pulsed magnet Water flushing done
 - Fixed LCW leak on black hose on D5Q10.
 - Fixed LCW leak on D6SD16 (required TD braze by Inpeng Samayavong)
 - Fixed ARF1-2, so we can again run both cavities. Changing the feedback pads to ARF1-2 from 16 dB to 20 dB solved the problem
 - Regulator replaced on Debuncher horizontal band 1 amp D:H1AL1
 - Optical trombone D:POTMF was replaced in the A30 stub room. Phase adjusted w/trombone, set @ 25ps now. Pads adjusted for matching amplitude for notch filter, both single and double notch.
 - Took 4db of attenuation out of each of the inputs to the 4-8 Core Momentum TWTs, A:CMTW01 thru 04.
 - Fixed a noisy target position readback D:TGT. Controls checked the MADC channel and found it was working. They reseated an input cable and the readback became stable again.
 - Pbar Crate \$18, Slot #1 C190 replaced. We can now pot A:ISEP1V and A:ISEP2V without getting a plot that looks like it was generated from an etch-a-sketch.
 - High-potted DRF1-4 again. This time we tested it at 4kV which is double the absolute max it would ever see. We found no problem with the driver, heliax, or PA. We also opened the PA and checked all cables and connectors for any sign of arcing, once again, no problems found. I then drove the entire system at max voltage and nearly double the normal duty cycle to try to provoke the problem. After a couple hours it did finally begin to arc intermittently. This time when it was arcing, I could slightly hear a ticking sound coming from the driver. I quickly switched the driver to run into a load and continued to drive it hard. After about five minutes, I did see one RF short. It is obviously much more prone to arcing when driving the non-perfect match of the PA, but now does look like it might be a driver problem after all. I can check out the driver (again) when there is a couple hours of non-stacking time
- Cryo work did not go so well.
 - **7am:** Cryo decided that a cold valve change on both wet and dry engine was necessary, as well as a dry engine flywheel change.
 - **~8am:** Cold valve change out on wet and dry engines underway.
 - **~8:05am:** After crashing the building, they lost helium and lost the D10 vacuum, as ion pumps started tripping.
 - **09:30:** Cold valve change-outs complete and cool down started.
 - **10:30am:** Dry Engine flywheel change underway
 - **11am:** Dry Engine flywheel change complete, cool down underway.
 - **2pm:** Progress is poor. Every time A:PITR33 gets below 20 K, the frig warms up.
- We had to jump through some extra hoops to get back to stacking
- Early on the evening, we were able to get interlocks for 1/2 of the Debuncher cooling and come back to reduced stacking with an interleaved TLG.
- Later in the evening shift, with the help of ops, we were able to get back the other half of the cooling.
- Stacktail Notch filter #3 drifting, so we had to make an ACL script on the fly to monitor that.
- Frig appears to be barley holding.

Stacking

- Stacking Numbers
 - 24.3mA/hr
 - 18.7 pbar/Mp

Transfers

- 96%

Studies

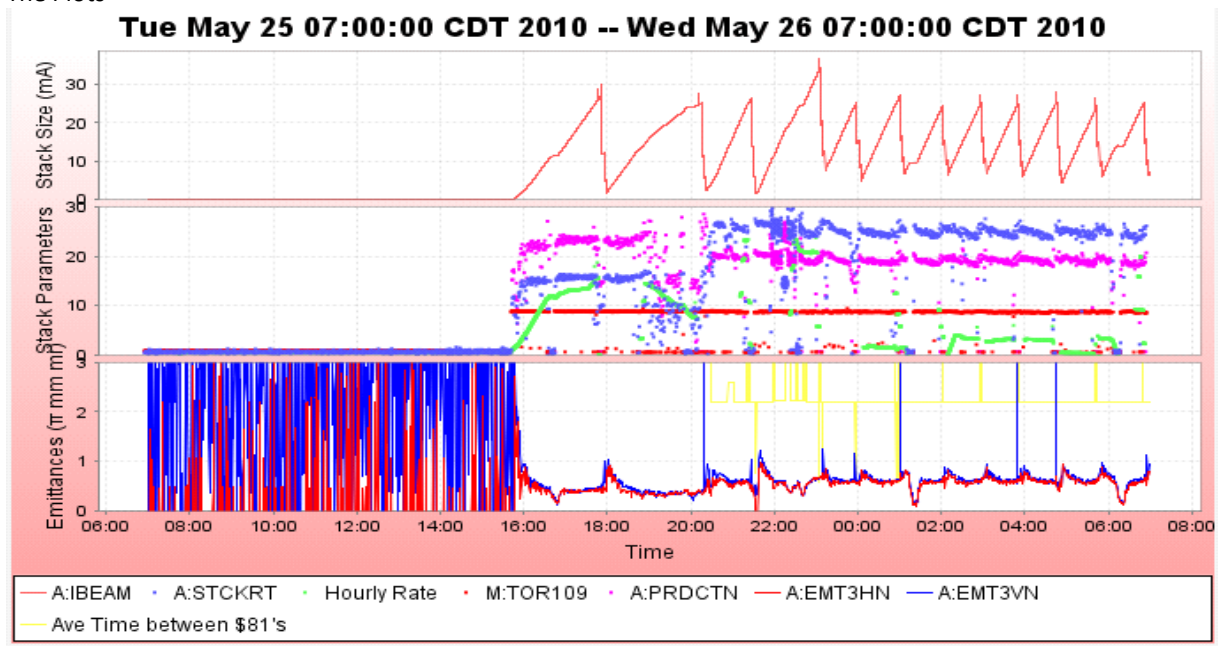
- Stacktail Phasing with 30e10 - looking for opportunistic non-stacking time
- Stacktail tank moving - parasitic
- Jim Morgan would like to change beamline C204 limits based on calculations using the model. We will be

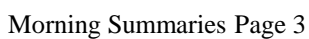
doing one plane of one beamline at a time.

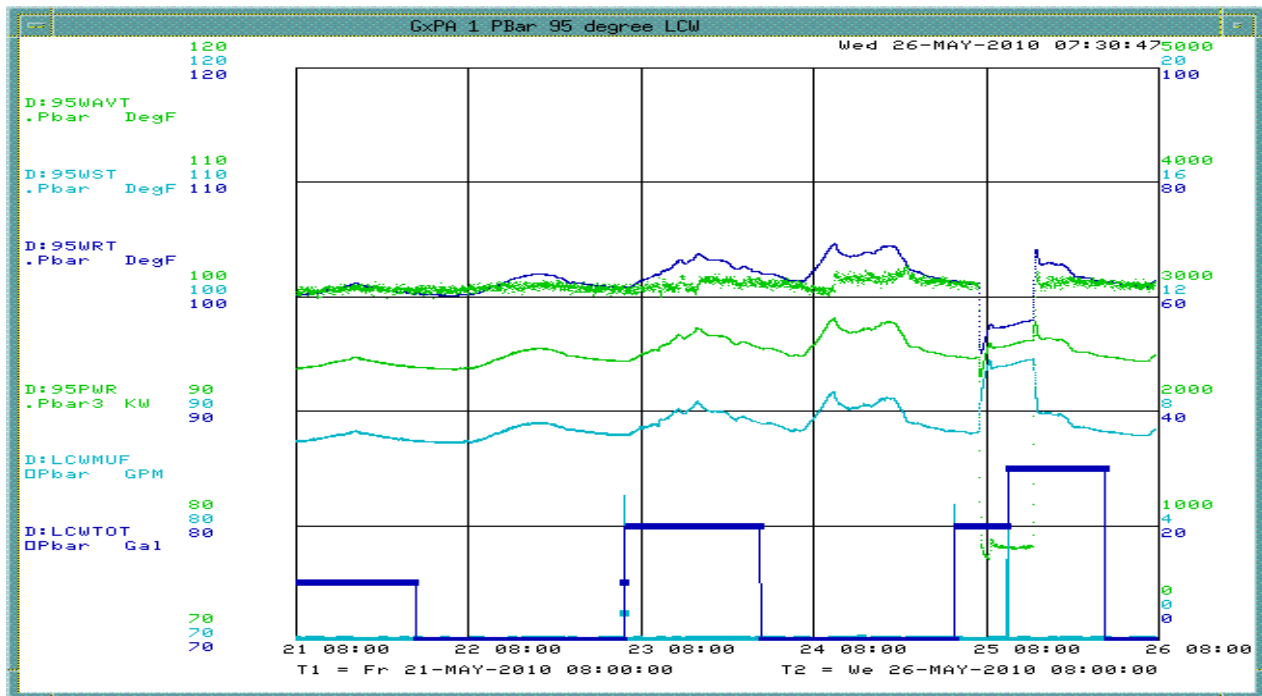
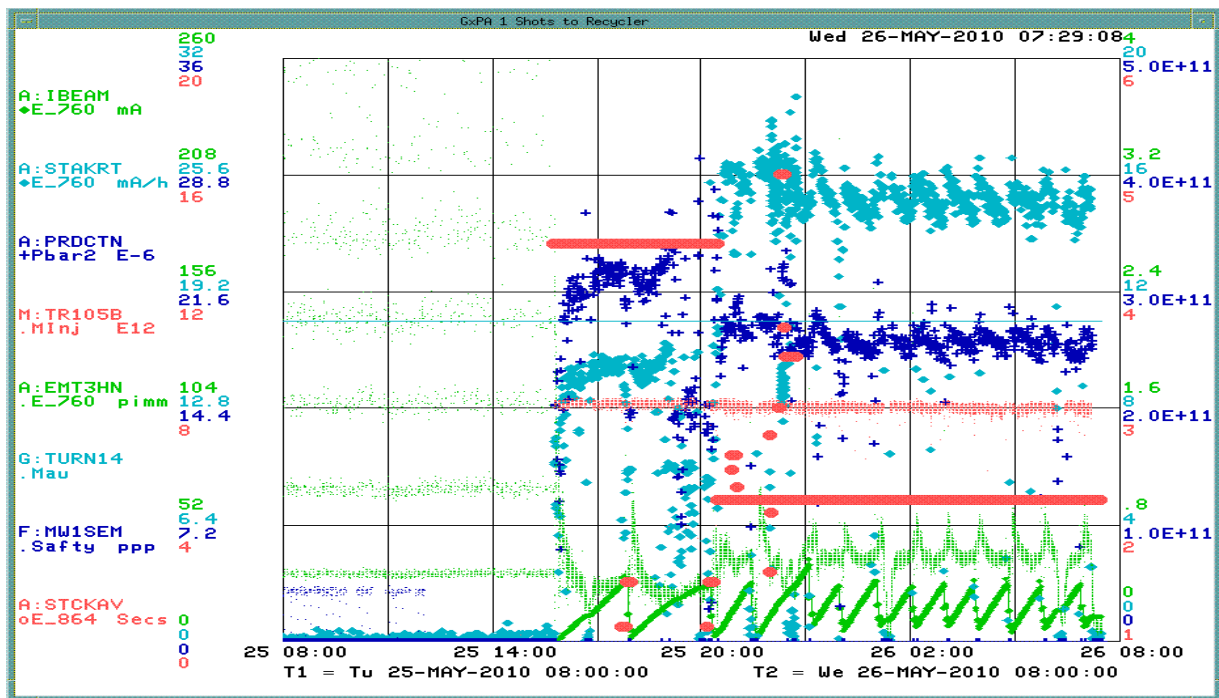
The Numbers

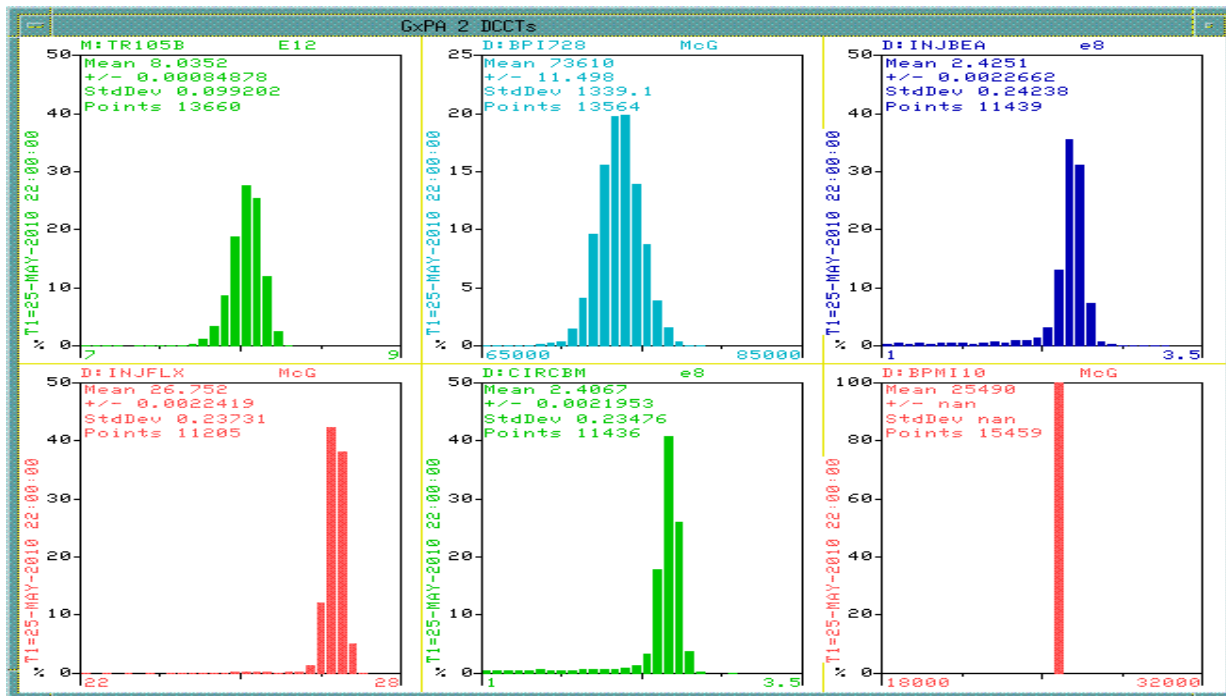
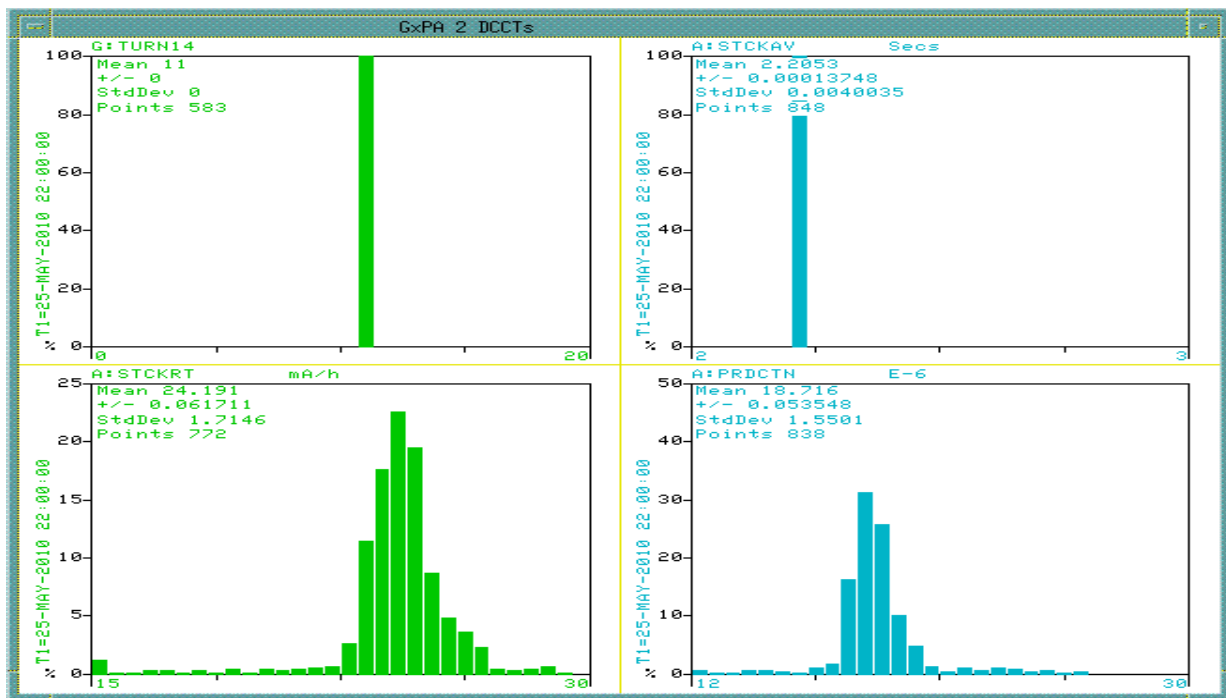
- Stacking
- Pbars stacked: 289.90 E10
- Time stacking: 15.24 Hr
- Average stacking rate: 19.02 E10/Hr
- Uptime
 - Number of pulses while in stacking mode: 20464
 - Number of pulses with beam: 18745
 - Fraction of up pulses was: 91.60%
- The uptime's effect on the stacking numbers
 - Corrected time stacking: 13.96 Hr
 - Possible average stacking rate: 20.77 E10/Hr
 - Could have stacked: 316.49 E10/Hr
- Recycler Transfers
 - Pbars sent to the Recycler: 276.45 E10
 - Number of transfers : 36
 - Number of transfer sets: 12
 - Average Number of transfer per set: 3.00
 - Time taken to shoot including reverse proton tuneup: 00.13 Hr
 - Transfer efficiency: 95.84%
- Other Info
 - Average POT : 8.06 E12
 - Average production: 19.18 pbars/E6 protons
- * Red indicates a problem during data retrieval. See the message window for details.
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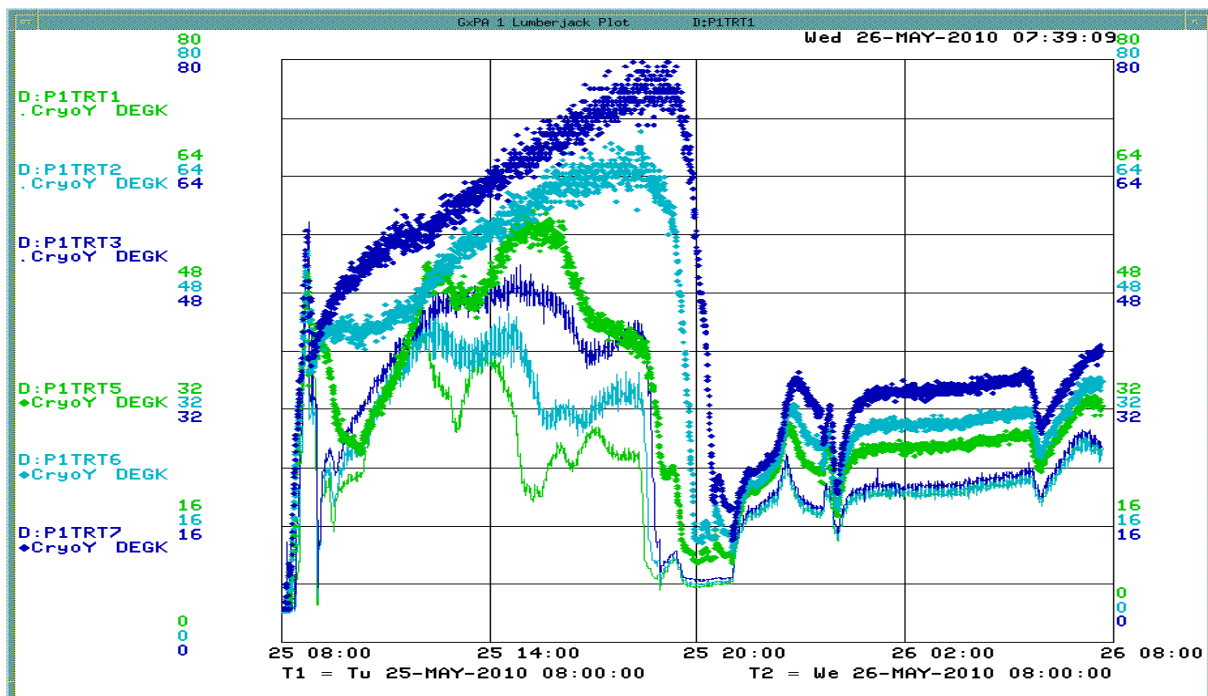
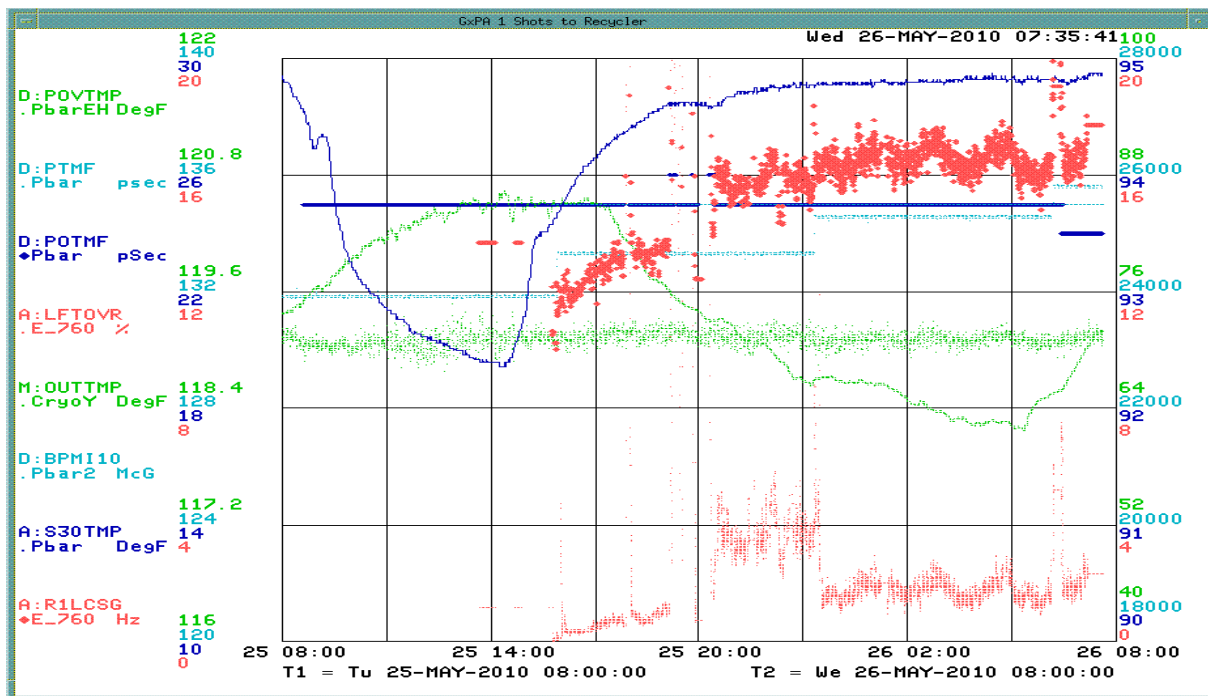
The Plots

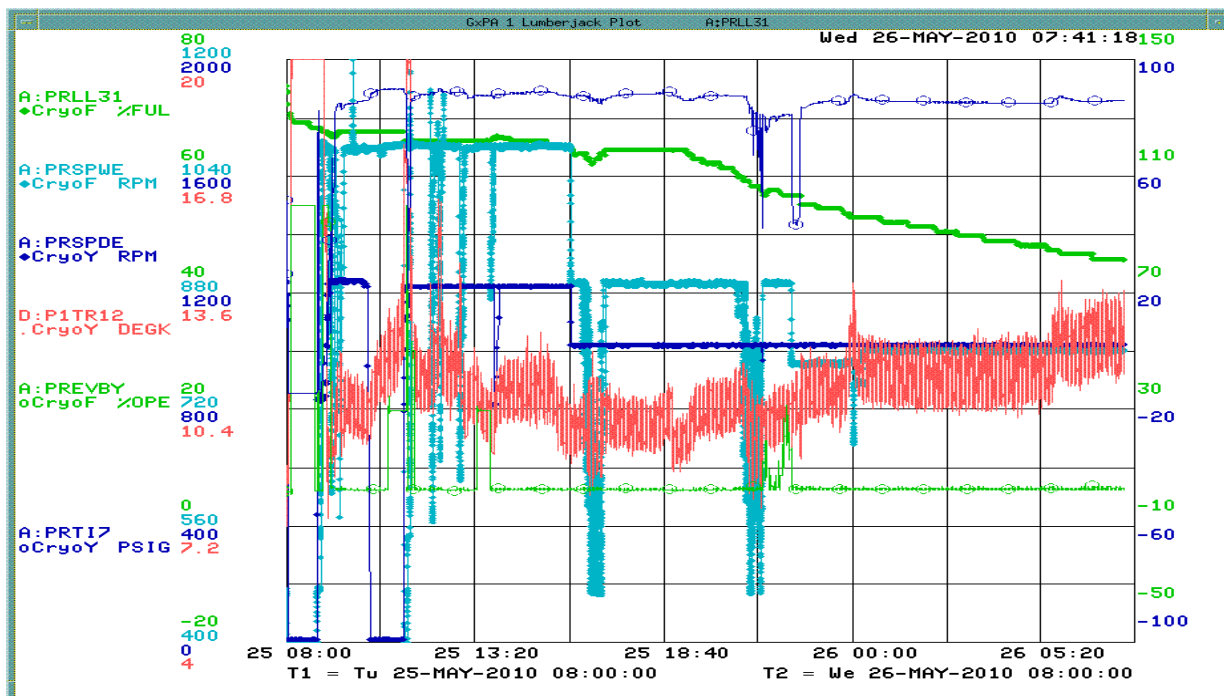












Column 1 Number _0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time	Column 21 Number _20_A:1 BEAMB sampled on \$91 (A:BEA M7), E10	Column 22 Number _21_A:1 BEAMB sampled on \$94 (A:BEA M9), E10	Unstacked (mA)	Column 23 Number _22_R: BEAMS (R:BEA ME0[0]) pre fer E10	Column 24 Number _23_R: BEAM (R:BEA ME0[1]) post fer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Trans fers	Set s	Column 5 Number _4_Acc Horizontal Emittanc e	Column 6 Number _5_Acc Vertical Emittanc e	Column 8 Number _7_Acc Longitudi nal Emittanc e	
	Totals =>			277.32		266.15		95.97%	96.83%	96.84%	36	12	5.1317	5.4654	1.9268	
19256	Wednesday, May 26, 2010	6:51	25.30	6.21	21.44	174.73	195.24	20.62	96.16%	96.04%	96.60%	3	1	5.932	6.251	1.995
19255	Wednesday, May 26, 2010	5:43	24.28	5.62	21.06	154.89	174.95	20.11	95.51%	96.29%	95.35%	3	1	5.962	6.101	1.949
19254	Wednesday, May 26, 2010	4:46	25.12	4.05	22.68	133.32	155.13	21.93	96.68%	97.66%	98.11%	3	1	4.481	5.138	1.944
19253	Wednesday, May 26, 2010	3:50	24.89	5.85	21.41	113.03	133.43	20.41	95.33%	96.46%	96.19%	3	1	6.052	5.712	1.971
19252	Wednesday, May 26, 2010	2:57	25.34	6.58	21.22	93.01	113.20	20.31	95.71%	95.14%	95.28%	3	1	5.819	6.179	2.012
19251	Wednesday, May 26, 2010	2:02	24.49	6.31	20.60	73.38	93.07	19.85	96.36%	96.40%	96.75%	3	1	5.651	6.071	2
19250	Wednesday, May 26, 2010	1:00	26.94	6.61	22.75	51.93	73.42	21.56	94.74%	94.94%	95.53%	3	1	5.761	6.29	2.001
19249	Tuesday, May 25, 2010	23:57	24.95	4.80	22.00	30.84	51.99	21.13	96.04%	98.66%	97.45%	3	1	5.302	5.553	2.003
19248	Tuesday, May 25, 2010	23:06	34.24	7.31	29.35	2.99	30.84	27.94	95.19%	97.56%	98.03%	3	1	6.079	6.485	1.948
19247	Tuesday, May 25, 2010	21:26	26.18	1.50	24.70	228.32	252.14	23.90	96.74%	97.82%	98.19%	3	1	3.474	3.741	1.814
19246	Tuesday, May 25, 2010	20:15	24.99	2.20	23.80	205.81	228.72	23.05	96.85%	96.41%	96.49%	3	1	3.311	3.665	1.791
19245	Tuesday, May 25, 2010	17:52	26.99	1.61	26.30	181.41	206.68	25.35	96.37%	97.94%	97.32%	3	1	3.756	4.399	1.693

Pbar ring Maintenance day: AP0 dump water and Accumulator Ring tunnel work

Grand Total 16

Pbar				
ID	Requestor	Title	Location	Type
11952	Petersohn, Brian	AP50 Tunnel Fire Alarm PM	AP50 Enclosure	FESS / Utilities
		Test Fire Alarm components in the AP50 Pit		
11951	Drendel, Brian	Braze sprayer on D6SD16	Pbar tunnel	Water
		Fix LCW leak on sextupole D6SD16. This repair will require a TD braze. Mechanical Support water group will be needed to valve in and out the LCW.		
11948	Sheahan, Patrick	AFR1-2	AFR1-2	High Level RF
		Diagnose low power on AFR1-2		
11947	Sheahan, Patrick	Intermittant RF on DRF1-4	DRF1-4	High Level RF
		Check RF input circuit on PA		
11927	Geyrasman, Michael	flywheel change PRSPDE	AP30 cryo dry engine	Stochastic Cooling
		To replace flywheel for PBar dry engine		
11912	Drendel, Brian	Fix D:POTMF	A30 Stub Room in Pbar Rings	Stochastic Cooling
		Troubleshoot and fix problems with Debuncher filter #2 D:POTMF. D:POTMF was setting itself to zero for unknown reasons. This was determined not to be a PLC problem upstairs. The delay line and controller are in the A30 stub.		
11911	Drendel, Brian	Core 4-8GHz dp, increase power	AP30 tunnel and upstairs	Stochastic Cooling
		Increasing the trip limits by 10W per TWT on the Core 4-8GHz momentum TWT. This requires a measurement for each TWT in the tunnel and an adjustment upstairs.		
11910	Drendel, Brian	Replace Camac 190 Card	AP10 service building	Controls
		Controls wants to replace the Camac 190 card in Pbar Crate \$18, Slot #1. We hope to line this work up with the access we will have between now and Thursday.		

11905	Vander Meulen, David	DH1AL1 regulator replacement	D10 tunnel	Stochastic Cooling
		The regulator for DH1AL1 shows a voltage monitor fault.		
11895	Vander Meulen, David	Acc 4-8DP Gain low	A20/A50 stub rooms	Stochastic Cooling
		The Accumulator 4-8DP gain is ~8dB lower after the laser transmitter/receiver were replaced.		
11878	Drendel, Brian	ARF1-2 inspection	AP50 tunnel	High Level RF
		A quick inspection of the ARF1-2 cavity. Repairs are estimated to be a couple hours, but this quick inspection will only take 15 minutes.		
11837	Leveling, Anthony	Drain, flush, refill dump system	AP0 water cage	Target Station
		The activity level in the beam dump system is unusually high due to the recent implementation of the backup water cooling circuit. Drain, flush, and refill the system. Change the dump water system filter. We would like several hours of radiation and thermal cooling time before turning off the system. The time required for doing the system work is 2 hours or less.		
11783	Gollwitzer, Keith	Inspection of Pbar Rings	Rings enclosure	Misc
		Inspection of Pbar tunnel, search for water leaks and ground water etc.		
11706	Shirley, Steven	Repair Exhaust Fan	AP0TH Pre-Vault	FESS / Utilities
		Repair Exhaust Fan, replace belt and motor sheave		
11705	Shirley, Steven	Repair/replace Sump Pump	APT10	Water
		Repair/replace Sump Pump		
11704	Shirley, Steven	Sump repair/replacement	AP0TH Pre-Vault	Water
		Repair or replace sump pump		
Total Requests: 16				
Grand Total 16				